

Notice of Allowability

Application No.

10/067,098

Examiner

Thai D. Hoang

Applicant(s)

AMIDAN ET AL.

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 10/27/2006.
2. ☒ The allowed claim(s) is/are 1-10,22,13-21,23-24,27-37,40-41,48,42-47,49-50 and 53 have ben renumbered to as 1-45 respectively.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material


5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____


DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

DETAILED ACTION

Allowable Subject Matter

Claims 1-10, 22, 13-21, 23-24, 27-37, 40-41, 48, 42-47, 49-50 and 53 are allowed.

The following is an examiner's statement of reasons for allowance:

Blair, US PAT No. 6,778,495 B1, discloses a method and system called "Combining multilink and IP per-destination load balancing over a multilink bundle." Blair does not teach or fairly suggest the following features, which are cited in independent claims of the present application:

1. A method for transmitting a stream of data over a channel made up of a plurality of subchannels having respective subchannel rates, the method comprising:

partitioning the data among the subchannels, such that responsive to the respective subchannel rates, successive words of the data, including at least first, second and third words in succession, are mapped to the subchannels in alternation, whereby the first word is mapped to a first subchannel, the second word is mapped to second subchannel, and the third word is mapped to one of the first subchannel and a third subchannel;

transmitting the words of the data over the subchannels to which they are mapped; and

receiving and processing the words from the subchannels to recover the stream of data,

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wherein partitioning the data comprises deciding, for each word among the successive words, to which of the subchannels the word should be mapped, and

(a) *wherein deciding to which of the subchannels the word should be mapped comprises assigning respective numbers of the words to the subchannels so that at any point in time while transmitting the words of the data over the subchannels, a ratio of the numbers of the words that have been assigned to each of a given pair of the subchannels is approximately equal to the ratio of the respective subchannel rates as recited in claims 1 and 28.*

Claims 2-10, 13-14 and 22 are allowed because they depend on allowed claim 1, and claims 29-37, 40-41 and 48 are allowed because they depend on allowed claim 28.

(b) *wherein deciding to which of the subchannels the word should be mapped comprises interleaving the words among the subchannels in an order that is fully determined by the subchannel rates as recited in claims 15 and 42.*

Claim 16 is allowed because it depends on allowed claim 15.

(c) *wherein deciding to which of the subchannels the word should be mapped comprises selecting one of the subchannels responsive to an accumulated value indicative of a distribution of the words among the subchannels, and updating the accumulated value responsive to the selected subchannel for use in deciding to which of the subchannels subsequent words should be mapped as recited in claim 17 and 43.*

Claims 18-21 and 44-47 are allowed because they depend on allowed claims 17 and 43 respectively.

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2. A method for transmitting a stream of data over a channel made up of a plurality of subchannels having respective subchannel rates, the method comprising:

framing the data in a sequence of data blocks in accordance with a data framing protocol;

partitioning the data among the subchannels, such that responsive to the respective subchannel rates, successive words of the data, including at least first, second and third words in succession, are mapped to the subchannels in alternation, whereby the first word is mapped to a first subchannel, the second word is mapped to second subchannel, and the third word is mapped to one of the first subchannel and a third subchannel;

transmitting the words of the data over the subchannels to which they are mapped; and

receiving and processing the words from the subchannels so as to reassemble the data blocks,

wherein framing the data comprises framing the blocks in accordance with a data framing protocol applicable to the channel, and

wherein framing the blocks comprises, for each block among at least some of the blocks, combining the data from multiple bearers in a payload of the block, and wherein mapping the successive words comprises mapping the words to the subchannels in a manner substantially independent of a partitioning of the payload among the multiple bearers as recited in claims 23 and 49.

Claims 24, 27 and 50, 53 are allowed because they depend on allowed claims 23 and 49 respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D. Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thai Hoang